

temp. or generating power of alloy and polymer are identical

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Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Main IPC	Week
JP 8199080	A	19960806	JP 9511062	A	19950126	C08L-101/12	199641 B

Priority Applications (No Type Date): JP 9511062 A 19950126

Patent Details:

Patent	Kind	Lan	Pg	Filing Notes	Application	Patent
JP 8199080	A		7			

Abstract (Basic): JP 8199080 A

In a shape memory composite consisting of a shape memory alloy memorising a given shape recovery motion and a shape memory polymer memorising a shape recovery motion in a direction different to the recovery motion of the shape memory alloy, the improvement comprises: (1) the shape recovery temp. of the shape memory alloy martensite, reverse (sic) transformation temp. (A_f) is higher than the shape recovery temp. of the shape memory polymer glass transition temp. (T_g); and (2) the temp. at which (recovery stress x cross section) or generating power of the shape memory alloy and (recovery stress x cross section) of the shape memory polymer are the same is set between (A_f) and martensite transformation temp. (M_f) of the shape memory alloy so that, above the set temp., the composite keeps the shape memorised by the shape memory alloy owing to the recovery motion to the shape memorised by the shape memory alloy and, below the set temp. and above the T_g , the composite keeps the shape memorised by the shape memory polymer owing to recovery motion to the shape memorised by the shape memory polymer.

USE - The shape memory composites are useful for drive systems for air conditioner outlet flaps and actuators for gastro-camera and industrial endoscopes, temp. display of electromagnetic cookers, valves for car exhaust gas prevention devices, siphon coffee makers, auto desiccators and fire prevention dampers.

ADVANTAGE - The shape memory composites have excellent corrosion resistance, electro-insulation properties and biocompatibility and can be obtd. economically.

Dwg.3/5

Derwent Class: A88; P73; X27

International Patent Class (Main): C08L-101/12

International Patent Class (Additional): B32B-015/08; C08F-036/08; C08F-236/10; C08G-018/06; C08G-061/08; C22K-001-00

High polymer moulding prod. having reversible shape with temp. change -
prepd. by making high polymer moulding and shape memory alloy into